

## **Daniel K Tarullo: Thinking critically about nonbank financial intermediation**

Speech by Mr Daniel K Tarullo, Member of the Board of Governors of the Federal Reserve System, at the Brookings Institution, Washington DC, 17 November 2015.

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The financial crisis highlighted two major vulnerabilities in the U.S. financial system. First was the magnitude of the too-big-to-fail problem. Second was the size and fragility of the so-called shadow banking system and the extent to which shadow banking activities not subject to prudential regulation were integrated with the regulated banking sector. In the intervening years, much has been done to address too-big-to-fail. With regard to shadow banking concerns, the specific forms related to mortgage lending that linked the regulated and unregulated sectors, such as the notorious structured investment vehicles (SIVs), collapsed during the crisis. Changes in capital, accounting, and other regulatory standards make these arrangements very unlikely to reappear. Moreover, the kind of very large nonbank financial firms whose failures deepened the crisis are now subject to consolidated prudential regulation and supervision. So, in a quite direct sense, the answer to the question posed by this conference of whether we are safer than before the crisis is easy to answer in the affirmative.

Of course, “safer” does not necessarily mean safe enough. With respect to the largest banks, we continue to pursue the aim of promoting orderly resolution through evaluation of their resolution plans and through a long-term debt requirement, as proposed a few weeks ago. In addition, the banking agencies will be proposing a net stable funding ratio rule, aimed at assuring adequate medium-term liquidity, in the next few months. And the Federal Reserve is currently engaged in a review of its annual stress testing and capital planning exercises, one goal of which is to reflect better the range of risks confronted by these institutions.

With respect to shadow banking, the subject of my remarks today, the circumstances are somewhat different. While the specific pre-crisis linkages to the regulated sector have been removed or better regulated, the possibility of other connections remains. More generally, risks to financial stability may arise anew from activities mostly or completely outside the ambit of prudentially regulated firms. Shadow banking is not a single, identifiable “system,” but a constantly changing and largely unrelated set of intermediation activities pursued by very different types of financial market actors. Indeed, the very rigor of post-crisis reforms to prudential regulation may create new opportunities for such activities. The aphoristic warning to avoid too much emphasis on fighting the last war, since wholly new risks may have arisen, seems particularly applicable in this area.

Yet there is simultaneously the opposite danger that the regulatory response to shadow banking will be too broad and too unidimensional. Indeed, the very term “shadow banking” tilts in that direction. This afternoon, I will try to identify some of the considerations that could help navigate between the perils of underappreciating the risks to financial stability arising from, and the costs from overreacting to, new forms of nonbank financial intermediation. Along the way I will make a few points. One is that, analytically, it is essential to disaggregate the various activities that fall under the loose term shadow banking and to assess the risks and benefits they present on a discrete basis. A second is that, notwithstanding the manifold nature of nonbank intermediation, it remains useful to identify the relationship of specific activities to the prudentially regulated sector. A third is that institutional considerations will be important in defining the potential, and actual, regulatory responses to nonbank intermediation.

## **The legacy of shadow banking**

As you have probably noticed already, I have some misgivings about the continued use of the term shadow banking as a shorthand for various forms of nonbank financial intermediation that may need a regulatory response. The term conjures up a picture of lending and borrowing that resembles activity associated with, but not conducted by, commercial banks which is both over- and under-inclusive of actual risks to financial stability. Before elaborating on this point, though, let me review how the phrase does capture well the activities that played such a large part in precipitating and exacerbating the financial crisis.<sup>1</sup>

Before 2007, large banks provided credit and liquidity support, whether explicit or implicit, for a range of intermediation entities, including finance companies, nonbank mortgage lenders, SIVs, and asset-backed commercial paper conduits. All of these entities engaged in maturity and liquidity transformation, frequently accompanied by significant leverage. Many created, through securitization or otherwise, assets that were viewed as cash equivalents – safe, short-term, and liquid. That is, at least in normal times, they were seen as comparable to demand deposits created by the traditional banking sector. Thus, what we might refer to as the prototypical form of shadow banking presented the kind of risk associated with traditional banking prior to the creation of deposit insurance – that of destabilizing short-term creditor runs that lead to defaults and asset fire sales.

Bank sponsorship contributed to the illusion that the shadow banks' short-term liabilities were virtually as good as cash. Large banks also relied on short-term wholesale funding provided by the shadow banking sector as a source of cheap financing. Then, questions arose about the quality of the mortgage loans and other assets underlying the liabilities of SIVs and asset-backed commercial paper conduits and, simultaneously, about the continued willingness and capacity of their sponsors to support them. Suddenly, asset-backed commercial paper was no longer seen as a cash equivalent, and a run ensued. Large investment banks also experienced dramatic runs on their short-term, secured wholesale funding. Another powerful run occurred, this time on money market mutual funds, after Lehman Brothers' shadow banking activities caused it to fail and the Reserve Primary Fund broke the buck.

As noted earlier, some key elements of pre-crisis shadow banking such as SIVs have vanished, and some key actors of that earlier period have been brought within the bounds of prudential regulation. Today, the shadow banking sector is smaller and the traditional banking sector is more resilient. Nonetheless, abundant global liquidity continues to seek out safe assets, and some financial market participants will continue to accept maturity and liquidity mismatches in order to earn incrementally higher yields. The risks associated with short-term wholesale funding in particular have more receded than disappeared. Accordingly, the prototype of the precarious shadow banking model can generate new variants that should command regulatory attention. Before returning to this issue, though, I want to speak more directly to why and how we should analyze the risks and benefits associated with specific forms of nonbank financial intermediation, rather than make regulatory decisions based upon the fact that a particular form of intermediation bears some resemblance to the borrowing or lending activities traditionally associated with commercial banks.

## **Analyzing nonbank intermediation**

Switching from a focus on “shadow banking” to a consideration of the varieties of nonbank intermediation reinforces the importance of assessing specific risks rather than merely categorizing activities as either shadow banking or something else. In this way, the potential

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<sup>1</sup> For a fuller discussion, see Daniel K. Tarullo (2012), “[Shadow Banking after the Financial Crisis](#),” remarks delivered at the Federal Reserve Bank of San Francisco Conference on Challenges in Global Finance, San Francisco, California, June 12.

over-inclusiveness for financial stability purposes of the tag “shadow banking” can be better avoided. Even nonbank intermediaries that engage in lending to consumers or small businesses are not monolithic, insofar as the sources of their funding – and thus attendant run risks – may differ markedly.

On the other hand, financial stability risks are not limited to entities or activities that seem to replicate the kind of lending conventionally associated with commercial banks. This is where the potential under-inclusiveness of the shadow banking category arises. Here again, though, it is important not to leap to the conclusion that where some risks do exist, they should be addressed in a uniform manner. For example, some classes of asset managers, such as bond funds that hold relatively illiquid assets while offering their investors the right to withdraw funds on very short notice, *may* pose redemption risks. But intermediaries such as many conventional mutual funds do not pose bank-like risks, since they generally are not leveraged. So, if further analysis supports the conclusion that redemption risks are real, the optimal regulatory response would surely not be one that treats all asset managers as quasi-banks that need to have capital and similar bank regulatory constraints.<sup>2</sup>

An emphasis on actual risks can lead to the conclusion that some nonbank financial entities or activities do not pose material threats to financial stability at all. Pension funds, for example, are surely an important form of intermediation. If, over time, they do not have assets sufficient to meet their promises to plan participants, whether because they have been underfunded in the traditional sense or because they have lost money through ill-considered investments, hardship will undoubtedly follow. If enough pension plans fell short of expectations, there might be macroeconomic consequences. And if they provide short-term funding in order to increase returns on the assets they need to keep liquid, they might contribute to the risks assumed by other kinds of intermediaries. But, in themselves, they are unlikely to pose financial stability risks. Similar reasoning would apply to traditional insurance activities.

Even as the risks associated with specific forms of nonbank intermediation are evaluated, it is important also to bear in mind the specific economic benefits of those activities. Nonbank intermediaries can increase the diversity of the economy’s capital providers. For example, the creation and eventual proliferation of equity mutual funds offered a variety of savings options to American households for which ownership of a diversified portfolio of equities is either practically burdensome or financially impossible. This development posed a challenge for the liability side of banks’ balance sheets, as households reduced the share of their savings in traditional bank deposits. But it is hard to argue that this challenge would have merited limiting the availability of mutual funds.

Nonbank intermediaries can also provide credit to borrowers that are underserved or unserved by traditional banks. It could be argued that one example of such nonbank activity is online marketplace lending that uses new sources of data and new technologies to lower the fixed costs of making credit decisions, rendering lending to some individuals and small businesses more cost-effective. Of course, it matters a great deal whether this competition to traditional banks arises because risks are genuinely lower or useful new products have been created, on the one hand, or because well-grounded prudential or consumer regulations have been successfully avoided, on the other.<sup>3</sup>

A key implication of the fact that the activities often grouped under the heading shadow banking are not monolithic is that the level of a particular activity is less important than the

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<sup>2</sup> Some mutual funds may in fact use a form of synthetic leveraging that could complicate an assessment of financial stability implications. See 80 Fed. Reg. 62279 (October 15, 2015), footnote 35.

<sup>3</sup> For a discussion of potential concerns with marketplace lending, see Antonio Weiss (2015), [remarks delivered at the Information Management Network Conference on Marketplace Lenders](#), New York, New York, October 29.

degree of vulnerability that it creates. Not all of what some might call shadow banking activity represents a market failure that creates excessive risk to financial stability, and so it would be wrong to assume that all shadow banking ought to be regulated to safeguard financial stability. This view is reflected in the *Global Shadow Banking Monitoring Report for 2015*, which has just been issued by the Financial Stability Board. The report begins by including all activities that could arguably be included in the very broad category of shadow banking, but then classifies these activities by economic function and risks. The result is about a 70 percent decrease in the amount of intermediation otherwise captured by the broader definition.<sup>4</sup>

Thus, assessing whether regulation is appropriate for specific forms of nonbank intermediation requires a balancing of the resulting increase in socially beneficial credit, capital, or savings options against any associated increase in risks to the safety and stability of the financial system as a whole. The chief relevant factors to consider include the extent of reliance on maturity or liquidity transformation, the creation of cash equivalent assets, the use of leverage, and the degree of interconnection with the traditional banking sector.

When growth in nonbank intermediation reflects a migration of traditional banking activities to less-regulated entities, a number of similar considerations are relevant to an evaluation of the costs and benefits of the migration and the potential need for a regulatory response. Here, where the activity is probably quite bank-like, I am going to revert to the use of the term shadow bank.

First, to what extent does the activity, as practiced by shadow banks, entail reliance on leverage or on maturity or liquidity transformation that could lead to a bank-like creditor run dynamic? Bank regulation is primarily aimed at preventing the occurrence of such destabilizing runs or minimizing their ill effects, and so the need for bank-like regulation is greater in the presence of material run risk.

Second, are banks still informally or indirectly at risk despite the migration to nonbank entities? This could be the case if banks sponsor the shadow banks and implicitly or explicitly provide them with a liquidity backstop or credit support, and it would call for greater regulatory attention either to the shadow banks conducting the activity or to the banks' connection with those shadow banks.

Third, is the activity at issue primarily migrating out of the most systemic banks – global systemically important banking organizations (GSIBs) – or smaller banks? Migration of activity out of GSIBs might on net be beneficial for financial stability because it would leave the GSIBs less systemic, even if the activity migrates to less-regulated shadow banks, though I would caution that an especially careful analysis would be needed before reaching this conclusion.

In this regard, I would note that one way to limit the growth of shadow banking that simply arbitrages bank regulation is to make sure that the regulated sector itself is not unnecessarily burdened. This aim lies behind our efforts to tailor banking regulation by reference to the risks posed to the economy and the financial system by banks of different sizes, scopes, and business activities.

In addition, it suggests a couple of additional considerations for evaluating specific forms of shadow banking. Here, though, the relevance of these considerations is for determining whether to adjust banking regulation, as much as it is for determining whether regulation of the shadow banks would be warranted. One such consideration is whether the activity is high-risk, and whether banks have a good track record in addressing the attendant risks. Migration may be of less concern where banks historically have done a poor job of managing

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<sup>4</sup> Financial Stability Board, [Global Shadow Banking Monitoring Report 2015](#) (Basel, Switzerland: Financial Stability Board, November 12).

the risks of the activity. Another salient consideration is whether the activity at issue has significant synergies with core banking activities. If so, then migration out of the traditional banking sector could damage the efficiency of banks and increase their vulnerability.

### Short-term wholesale funding

While I favor assessment of the specific risks and costs associated with a particular form of nonbank intermediation, I also believe that the greatest risks to financial stability are the funding runs and asset fire sales associated with reliance on short-term wholesale funding, and thus I place particular emphasis on this factor. If there is one lesson to be drawn from the financial crisis, it is that the rapid withdrawal of funding by short-term credit providers can lead to systemic problems as consequential as those associated with classic runs on traditional banks.<sup>5</sup> When financial intermediaries must rapidly liquidate a substantial amount of longer-term assets that they can no longer fund, the impact can reverberate throughout the financial system. The resulting declines in asset prices can trigger margin calls on other investors, who themselves may need to de-lever by selling their own holdings, adding to the fire sale-induced price impact on these, and potentially other, assets. In the worst case, the result can be the kind of generalized asset price decline and liquidity freeze observed at the height of the financial crisis.

The total amount of short-term wholesale funding within the financial system is lower today than immediately before the crisis, but volumes are still large relative to the size of the financial system. For example, nearly half of the liabilities of broker-dealers consist of short-term wholesale funding, an amount that is nearly the same as it was during the crisis.<sup>6</sup> Numerous regulatory reforms have addressed the use of short-term wholesale funding by prudentially regulated institutions. The Board has finalized the liquidity coverage ratio<sup>7</sup> and is developing the net stable funding ratio to diminish large banks' vulnerability to abrupt changes in short-term wholesale markets. The Board's annual Comprehensive Liquidity Analysis and Review provides an opportunity for supervisors to assess and, where necessary to contain risks, require changes to the specific funding practices of large banking organizations.<sup>8</sup> Finally, in order to increase the resilience of firms that continue to use significant amounts of such funding, we have also incorporated a measure of a firm's reliance on short-term wholesale funding into the calibration of both the capital surcharge for U.S. GSIBs and our proposed long-term debt requirement for those firms.<sup>9</sup>

These measures, applicable as they are only to prudentially regulated banking organizations, do nothing to address the risks of short-term wholesale funding by nonbank intermediaries. Indeed, constraints imposed on banking organizations may prompt more short-term wholesale funding to migrate outside the regulated sector. In the past, bank backstops were generally needed for shadow banks to obtain substantial amounts of such funding. But it is not so far-fetched to think that, with time and sufficient economic incentive, the financial, technological, and regulatory barriers to the disintermediation of prudentially regulated banking firms could be overcome. Indeed, we have observed some investment funds exploring the possibility of disintermediating dealers by lending cash against securities

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<sup>5</sup> See, for example, Gary Gorton and Andrew Metrick (2010), "Regulating the Shadow Banking System," *Brookings Papers on Economic Activity* (Washington: Brookings Institution, Fall).

<sup>6</sup> See Stanley Fischer (2015), "[Macprudential Policy in the U.S. Economy](#)," speech delivered at the 59th Annual Conference of the Federal Reserve Bank of Boston, October 2, Table 1.

<sup>7</sup> 79 Fed. Reg. 61440 (October 10, 2014).

<sup>8</sup> For a fuller description, see Daniel K. Tarullo (2014), "[Liquidity Regulation](#)," remarks delivered at the Clearing House 2014 Annual Conference, New York, New York, November 20.

<sup>9</sup> See 80 Fed. Reg. 49082 (August 14, 2015) (GSIB risk-based capital surcharge final rule); and [www.federalreserve.gov/newsevents/press/bcreg/bcreg20151030a1.pdf](http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20151030a1.pdf) (long-term debt proposal).

collateral to other market participants. While it would be inadvisable to apply bank-style regulation to all entities that make use of short-term wholesale funding, a degree of consistent regulatory treatment is desirable to address bank-like risks in the shadow banking sector and to forestall regulatory arbitrage.

The Board has advocated for international measures to forestall the development of highly volatile funding structures outside the regulated sector. Consistent with this position, we will be developing a regulation that would establish minimum haircuts for securities financing transactions (SFTs) on a market-wide basis, rather than just for specific classes of market participants. SFTs include repo, reverse repo, securities lending and borrowing, and securities margin lending – transactions that are the lifeblood of many kinds of shadow banks. SFTs are a key component of the healthy functioning of the securities market. But, in the absence of sensible regulation, they also carry the potential for prompting the fire sale dynamic described earlier. While the haircuts and other conditions associated with SFTs today are considerably more conservative than during the period leading up to the crisis, there is good reason to believe that this conservatism could be eroded as economic conditions continue to improve and credit growth accelerates.

A system of numerical haircut floors for SFTs would require any entity that wants to borrow against a security to post a minimum amount of excess margin to its lender, with the amount varying depending on the asset class of the collateral. Like the minimum margin requirements that U.S. regulators have imposed on derivatives contracts, numerical floors for SFT haircuts would serve as a mechanism for limiting the build-up of leverage in the financial system. They could also mitigate the risk to financial stability posed by pro-cyclical margin calls during times of financial stress, since putting a regulatory floor under SFT haircuts during good times would reduce the amount by which they would increase during periods of stress.

### **Institutional considerations**

While the analytics of shadow banking, or nonbank intermediation more generally, lean toward a case-by-case balancing of risks and economic benefits, significant institutional issues also need to be addressed. Today I will mention only two.

First is the issue of what form of regulation is appropriate once analysis suggests that a response is needed. By authorizing the Financial Stability Oversight Council (FSOC) to designate nonbanks as systemically important institutions, the Dodd-Frank Wall Street Reform and Consumer Protection Act fills the gap that existed in the pre-crisis period, when firms like Bear Stearns, Lehman Brothers, and AIG largely escaped the perimeter of prudential regulation. Designation by FSOC places firms under the regulation and supervision of the Federal Reserve Board. While the Board can shape the particulars of its oversight to the nature of each designated firm, the statute requires liquidity standards, risk management standards, resolution plans, and concentration limits, with the additional strong presumption of capital standards.

As important as the designation authority is to preclude the Lehmans or AIGs of the future, it is almost surely not the optimal regulatory approach for most activities that can be characterized as shadow banking or that are conducted by nonbank intermediaries so as to raise financial stability concerns. The vast majority of firms engaged in such activities will not satisfy the statutory test for designation. In any case, it is unclear that all of the statutory prudential requirements for designated firms would be necessary or appropriate in dealing with the risks to financial stability posed by the activities of these firms. In many instances, and especially where funding vulnerabilities are at the heart of a business model, it is the activity itself that needs to be regulated in some way, whether there are a few large firms involved or many smaller ones.

A tool that might be better targeted to actual risks, while avoiding unnecessary “bank-like” regulation would be what I have previously termed “prudential market regulation” – that is, a

policy framework that builds on the traditional investor-protection and market-functioning aims of market regulation by incorporating a system-wide financial stability perspective. This approach would take into account such considerations as system-wide demands on liquidity during stress periods and correlated risks that could exacerbate liquidity, redemption, or fire sale pressures. The specific policies associated with prudential market regulation might be transaction-specific or apply to certain kinds of business models.

One example of such a measure is the SFT minimum haircut idea I mentioned earlier. Generally, though, prudential market regulation would be a tool more available to market regulators, since it would apply to activities on a market or transactional basis. In her important speech last year, Securities and Exchange Commission (SEC) Chair Mary Jo White provided a roadmap for just such a regulatory approach for the asset management industry.<sup>10</sup> The SEC has since begun to develop that approach.<sup>11</sup>

The second institutional issue is the question of which regulators would make the assessment and policy tradeoffs that I contemplate in addressing financial stability risks associated with nonbank financial intermediation. The natural answer would be the regulator with authority to act. While this may well be the best answer from a policy perspective, it does raise some potential issues on its own. For example, if regulators with responsibility for one sector believe that the failure of regulators with responsibility for another sector to act on financial stability concerns is creating debilitating disadvantages for firms in the first sector, they might be tempted to relax regulation on their firms, even though they might agree that the best outcome would be to retain their existing regulations but have the other sector subject to some constraints as well. This seems to me not a bad description of what happened in banking for a good part of the three decades beginning in the mid-1970s, when the banking agencies pursued a variety of deregulatory measures in part because they believed that the franchise of commercial banking was being eroded by various capital market activities that were not subject to appropriate prudential requirements.

## Conclusion

The Financial Stability Board study to which I referred earlier notes that the growth of shadow banking in the United States in recent years has been relatively modest. With the regulated financial sector so much more resilient than in pre-crisis days, the financial system as a whole is obviously safer. Moreover, much of the innovation occurring in lending and payments arenas today carries the promise of genuinely increased efficiency, and does not appear to be just an arbitrage against the stronger post-crisis regulatory regime.

But if history is any guide, the grace period we are now experiencing will not last forever. New forms of intermediation may carry new risks, or older forms may acquire new risks as they expand and adapt to new circumstances. If we are to pursue a policy of case-by-case assessment that permits healthy forms of nonbank intermediation while protecting the financial system, financial regulators will need to develop effective and supple mechanisms for what I have termed prudential market regulation.

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<sup>10</sup> See Mary Jo White (2014), "[Enhancing Risk Monitoring and Regulatory Safeguards for the Asset Management Industry](#)," speech delivered at the New York Times DealBook Opportunities for Tomorrow Conference, New York, New York, December 11.

<sup>11</sup> See 80 Fed. Reg. 62274 (October 15, 2015).